

**IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF OREGON**

**JEANIE CHONG,**

Plaintiff,

v.

**STL INTERNATIONAL, INC. and  
COSTCO WHOLESALE  
CORPORATION,**

Defendants.

Case No. 3:14-cv-00244-SI

**OPINION AND ORDER**

William A. Gaylord and Todd A. Bradley, GAYLORD EYERMAN BRADLEY, P.C., 1400 S.W. Montgomery Street, Portland, OR 97201. Of Attorneys for Plaintiff.

Mark P. Scheer, Dennis G. Woods, and Kelsey A. Terry, SCHEER & ZEHNDER LLP, 101 S.W. Main Street, Suite 1600, Portland, OR 97204. Of Attorneys for Defendants.

**Michael H. Simon, District Judge.**

Plaintiff purchased an inversion table manufactured by Defendant STL International, Inc. (“STL”) and sold by Defendant Costco Wholesale Corporation (“Costco”) (collectively, “Defendants”). A few months later, Plaintiff was injured when she fell from the inversion table while it was fully inverted. Plaintiff filed suit, alleging claims for strict product liability and negligence. Before the Court is Defendants’ motion for summary judgment and motion to strike

the expert reports of Plaintiff's experts, Hayes + Associates and Edward W. Karnes, Ph.D. The Court held an evidentiary hearing and heard oral argument on January 22, 2016. For the reasons discussed below, Defendants' motion for summary judgment and motion to strike the expert reports are granted in part and denied in part.

## STANDARDS

### A. *Daubert* Motion to Strike Expert Reports

The United States Court of Appeals for the Ninth Circuit has discussed the standard under which a district court should consider the admissibility of expert testimony. *City of Pomona v. SQM N. Am. Corp.*, 750 F.3d 1036 (9th Cir. 2014). As explained by the Ninth Circuit:

Rule 702 of the Federal Rules of Evidence provides that expert opinion evidence is admissible if: (1) the witness is sufficiently qualified as an expert by knowledge, skill, experience, training, or education; (2) the scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue; (3) the testimony is based on sufficient facts or data; (4) the testimony is the product of reliable principles and methods; and (5) the expert has reliably applied the relevant principles and methods to the facts of the case. Fed. R. Evid. 702.

Under *Daubert* [*v. Merrell Dow Pharm., Inc.*, 509 U.S. 579 (1993)] and its progeny, including *Daubert II* [*Daubert v. Merrell Dow Pharms, Inc.*, 43 F.3d 1311 (9th Cir. 1995)], a district court's inquiry into admissibility is a flexible one. *Alaska Rent-A-Car, Inc. v. Avis Budget Grp., Inc.*, 738 F.3d 960, 969 (9th Cir. 2013). In evaluating proffered expert testimony, the trial court is "a gatekeeper, not a fact finder." *Primiano v. Cook*, 598 F.3d 558, 565 (9th Cir. 2010) (citation and quotation marks omitted).

"[T]he trial court must assure that the expert testimony 'both rests on a reliable foundation and is relevant to the task at hand.'" *Id.* at 564 (quoting *Daubert*, 509 U.S. at 597). "Expert opinion testimony is relevant if the knowledge underlying it has a valid connection to the pertinent inquiry. And it is reliable if the knowledge underlying it has a reliable basis in the knowledge and experience of the relevant discipline." *Id.* at 565 (citation and internal quotation marks omitted). "Shaky but admissible evidence is to be attacked by cross examination, contrary evidence, and attention to the burden of proof, not exclusion." *Id.* at 564 (citation

omitted). The judge is “supposed to screen the jury from unreliable nonsense opinions, but not exclude opinions merely because they are impeachable.” *Alaska Rent-A-Car*, 738 F.3d at 969. Simply put, “[t]he district court is not tasked with deciding whether the expert is right or wrong, just whether his testimony has substance such that it would be helpful to a jury.” *Id.* at 969-70.

The test of reliability is flexible. *Estate of Barabin v. AstenJohnson, Inc.*, 740 F.3d 457, 463 (9th Cir. 2014) (en banc). The court must assess the expert’s reasoning or methodology, using as appropriate criteria such as testability, publication in peer-reviewed literature, known or potential error rate, and general acceptance. *Id.*; see also *Primiano*, 598 F.3d at 564. But these factors are “meant to be helpful, not definitive, and the trial court has discretion to decide how to test an expert’s reliability as well as whether the testimony is reliable, based on the particular circumstances of the particular case.” *Primiano*, 598 F.3d at 564 (citations and quotation marks omitted); see also *Barabin*, 740 F.3d at 463. The test “is not the correctness of the expert’s conclusions but the soundness of his methodology,” and when an expert meets the threshold established by Rule 702, the expert may testify and the fact finder decides how much weight to give that testimony. *Primiano*, 598 F.3d at 564-65. Challenges that go to the weight of the evidence are within the province of a fact finder, not a trial court judge. A district court should not make credibility determinations that are reserved for the jury.

*Id.* at 1043-44 (alterations in original).

## **B. Motion for Summary Judgment**

A party is entitled to summary judgment if the “movant shows that there is no genuine dispute as to any material fact and the movant is entitled to judgment as a matter of law.” Fed. R. Civ. P. 56(a). The moving party has the burden of establishing the absence of a genuine dispute of material fact. *Celotex Corp. v. Catrett*, 477 U.S. 317, 323 (1986). The court must view the evidence in the light most favorable to the non-movant and draw all reasonable inferences in the non-movant’s favor. *Clicks Billiards Inc. v. Sixshooters Inc.*, 251 F.3d 1252, 1257 (9th Cir. 2001). Although “[c]redibility determinations, the weighing of the evidence, and the drawing of legitimate inferences from the facts are jury functions, not those of a judge . . . ruling

on a motion for summary judgment,” the “mere existence of a scintilla of evidence in support of the plaintiff’s position [is] insufficient . . . .” *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 252, 255 (1986). “Where the record taken as a whole could not lead a rational trier of fact to find for the non-moving party, there is no genuine issue for trial.” *Matsushita Elec. Indus. Co. v. Zenith Radio Corp.*, 475 U.S. 574, 587 (1986) (citation and quotation marks omitted).

## **BACKGROUND**

### **A. Plaintiff’s Inversion Table**

On January 20, 2012, Plaintiff and her significant other, Mr. Yong Seon Kim, purchased an STL InvertAlign 5 Inversion Table (“InvertAlign”) at Costco. The InvertAlign has an “A-frame” construction with a bed on which a user lies and a main shaft that contains the “ankle lock system.” This system is the component that is alleged to be defective and to have caused Plaintiff to fall while she was fully inverted. The ankle lock system consists of “ankle comfort dials” (foot pedals) on which the user’s feet rest, “rear ankle cups” (“C” clamps) that sit behind each of the user’s ankles, and the “ankle locking mechanism,” which consists of foam-padded rollers that rest against the front of the user’s ankles during use, a handle with two springs that are connected to a pin, and a gear and pin ratchet-like locking mechanism. When the handle of the ankle locking mechanism is depressed, the pin is raised so that the user can move the clamp forward or backward along the gear plates, making the foam rollers and “C” clamps tighter or looser against the user’s ankles. To lock the rear ankle cups and foam rollers into place, the pin locks into a “valley” of the gear teeth when the user releases the handle.

### **B. Plaintiff’s Injury**

Included with Plaintiff’s InvertAlign were a set of assembly instructions, an Owner’s Manual, and an instructional DVD. Mr. Kim and Plaintiff are not fluent in English; in fact, they can only speak and read “a little” English. After purchasing their InvertAlign, Mr. Kim and

Plaintiff twice watched the instructional DVD that came with their InvertAlign. Mr. Kim then assembled the InvertAlign. Plaintiff waited a few days before using the InvertAlign until her daughter was able to read all the English-language warnings that came with the InvertAlign. Plaintiff's daughter read aloud to Plaintiff the warning card that was attached to the InvertAlign, but did not read aloud the remaining written instructions. For approximately two weeks, each time before she used the InvertAlign, Plaintiff watched the instructional DVD. Plaintiff used the InvertAlign once or twice per day for approximately 50 days before she was injured.

On March 10, 2012, Plaintiff used the InvertAlign the same way she had used it all of the previous times. She used it once in the morning, without incident. She then used it in the evening. She was wearing lace-up tennis shoes, stepped on the "ankle comfort dials," pulled the handle of the ankle locking mechanism as close as possible to her ankles and then moved the handle away from her body until she heard the locking mechanism click into place. She fully inverted, counted to 60, and then began counting again and reached approximately the number five before blacking out and regaining consciousness on the ground, unable to move her legs. She testified that she slipped out of her shoes, although she does not recall whether her shoes fell to the ground or were still in the ankle locking system after she fell. Mr. Kim testified that the InvertAlign's ankle lock system was still in the locked position after Plaintiff fell.

Reports from the first responders on the scene note that Plaintiff was supine under the InvertAlign "with her foot propped up on a cross bar." She was unable to move her foot herself, so the paramedics lowered her foot to the floor. She was unable to move her lower extremities. She is now a permanent paraplegic.

## **DISCUSSION**

Defendants argue that summary judgment is appropriate in this case because Plaintiff fails to offer evidence that the ankle lock system on Plaintiff's InvertAlign was defectively

designed,<sup>1</sup> that Defendants were negligent, or that Defendants failed to warn or inadequately warned Plaintiff regarding the use and risks associated with the InvertAlign. At oral argument, Plaintiff conceded the motions against her theories based on negligence and failure to warn (or inadequate warning or instruction). Thus, Plaintiff's only remaining claim is for strict product liability based on allegedly defective design.

Defendants also move to exclude the testimony of Plaintiff's two expert witnesses. The Court first addresses the admissibility of the opinions offered by Plaintiff's two expert witnesses.

### **A. Expert Testimony**

Defendants challenge the admissibility of the testimony of both of Plaintiff's experts, Hayes + Associates and Dr. Karnes. Because Dr. Karnes' opinion is only relevant to Plaintiff's failure to warn claim, which she conceded at oral argument, Defendants' motion to strike the opinion of Dr. Karnes is denied as moot.

#### **1. Qualifications of Hayes + Associates**

Well before the evidentiary hearing, Plaintiff submitted an expert report by Hayes + Associates, signed by Wilson C. "Toby" Hayes, Ph.D. and Erik D. Power, P.E. (the "Hayes Report") and a supplemental report by Hayes + Associates (the "Hayes Supplemental Report") that responded to Defendants' expert report. Dr. Hayes has extensive education and more than 40 years' experience in mechanical engineering and design, fall reconstruction, injury biomechanics, anatomy, and orthopedics. Dr. Hayes has a B.S. in Mechanical Engineering and an M.S. in Mechanical Engineering (Design) from Stanford University, and a Ph.D. in Theoretical and Applied Mechanics (Biomedical Engineering) from Northwestern University. Dr. Hayes has spent decades as a professor of orthopedics, bioengineering, biomechanics, and

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<sup>1</sup> Plaintiff does not allege a strict product liability claim by manufacturing defect.

mechanical engineering at Stanford University, University of Pennsylvania, and Harvard Medical School. Dr. Hayes then served as Vice Provost for Research at Oregon State University, where he is currently an Emeritus Professor. Dr. Hayes also has served as the principal or co-principal investigator on 61 research grants involving biomechanics, most of which involved injury biomechanics. He has authored or co-authored more than 200 peer-reviewed publications, more than 60 chapters, and two books.

Dr. Hayes was assisted by Mr. Power, who is a Registered Professional Mechanical Engineer and certified accident reconstructionist. Mr. Power has a B.S. in Mechanical Engineering and an M.S. in Mechanical Engineering (with a Biomedical Option) from Virginia Tech. He has published his research in peer-reviewed journals and worked as a Lead Engineer, contracting with the National Highway Transportation Safety Administration's Biomechanics Division.

## **2. Opinions**

The Hayes Report concludes that Plaintiff's InvertAlign "unexpectedly allowed her feet to slip out of her securely tied lace-up shoes and through the ankle locking mechanism/pads while her body was in a fully inverted position, causing her to fall and land on her head." Dkt. 25-6 at 9. The Hayes Report further concludes that Plaintiff's InvertAlign was defective in one or more of the following ways: (1) the InvertAlign "incorporated a design defect in that it unexpectedly allowed Ms. Chong's feet to slip out of her shoes and through the ankle locking mechanism/pads while her body was inverted"; (2) there were a number of low-cost alternative locking mechanisms that could have been feasibly incorporated into the design and would have eliminated the defect; and (3) there were fail-safe mechanisms that could have been feasibly incorporated into the design and that would have significantly reduced or eliminated Plaintiff's injuries. *Id.*

The Hayes Report notes that Plaintiff's InvertAlign ankle locking mechanism has seven settings to accommodate different leg sizes, with the approximate spacing of 1.5 inches (setting one), 2.125 inches (setting two), 3 inches (setting three), 3.5 inches (setting four), 4 inches (setting five), 4.5 inches (setting six), and 5 inches (setting seven). Dkt. 25-6 at 6. The Hayes Report concludes that based on Plaintiff's ankle size of approximately 2.8 inches, she would likely have used setting three (the 3-inch setting), or possibly setting four (the 3.5-inch setting) if the rear of her shoes interacted with the rear ankle pads or if her toes were pointed downward. Assuming Plaintiff used setting three, Dr. Hayes noted that the distance between the metal rods holding the front ankle pads, which consisted of approximately 0.9 inches of compressible soft foam, and the harder rear ankle cups was approximately 3.9 inches (the 3 inches from the setting plus the 0.9 inches from the compressible foam). Dr. Hayes further noted that the soft tissue "inferior to" the heel bone,<sup>2</sup> called the "heel fat pad," is approximately 0.75 inches thick and highly compressible, and that the maximum width of Plaintiff's foot that would need to fit through the ankle locking mechanism is 4.5 inches. Therefore, concludes Dr. Hayes, "even with the ankle locking mechanism properly adjusted for Ms. Chong's lower legs, once unshod, her feet were allowed to slip through, primarily due to compression of the front ankle pads and her heel fat pads, with smaller amounts of compression to the other soft tissues of her feet." *Id.*

The Hayes Supplemental Report (Dkt. 31-4) responds to the opinions of Defendants' expert, Alan C. Topinka, PE (Dkt. 25-13). The Hayes Supplemental Report disagrees with Mr. Topinka's conclusions. Relating to what locking position setting was likely used by Plaintiff,

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<sup>2</sup> "Inferior" in human anatomy means situated nearer to the soles of the feet, or, generically, "below" another part of the body. Merriam-Webster Medical Dictionary, *available at* <http://www.merriam-webster.com/medical/inferior> (last visited January 6, 2016).



Dr. Hayes reiterated his conclusion that the locking position setting used by Plaintiff, based on her ankle size, was likely locking position setting three or possibly setting four, and not locking setting two as opined by Mr. Topinka. The Hayes Supplemental Report notes that Mr. Topinka tested six subjects on an exemplar inversion table, whereas Dr. Hayes performed a similar test on six subjects using Plaintiff's actual InvertAlign. The Hayes Supplemental Report also includes photographs demonstrating how the top of the back side of the tennis shoes Plaintiff was wearing on the day of the incident could hit the rear ankle cups and thereby force her to select a looser position of ankle clamp tightness.

Regarding the feasibility of a user's foot sliding through the ankle lock system, the Hayes Supplemental Report notes that Mr. Topinka's tests showed that one test subject slipped out of the ankle lock system when it was only one setting greater than Mr. Topinka's idea of a preferred setting. Given that Mr. Topinka opined that Plaintiff's preferred setting is setting two, and Mr. Hayes opined that Plaintiff likely used setting three or four, the Hayes Supplemental Report concludes that even under Mr. Topinka's testing, Plaintiff could have slipped through the ankle lock system.

### **3. Reliability**

Defendants argue that the opinions of Hayes + Associates should be excluded as unreliable because the testimony is not based on sufficient facts or data, is not the product of reliable principles and methods, and does not reliably apply the relevant principles and methods to the facts of the case. As explained previously, an expert opinion is reliable "if the knowledge underlying it has a reliable basis in the knowledge and experience of the relevant discipline," *Pomona*, 750 F.3d at 1044 (citing *Daubert*, 509 U.S. at 565) (quotation marks omitted), the Court's role is to ensure that the jury is not exposed to "unreliable nonsense opinions," not to be a factfinder or weigh the impeachability of an expert's conclusions, *Pomona*, 750 F.3d at 1044,

PAGE 9 – OPINION AND ORDER

and “[s]haky but admissible evidence is to be attacked by cross examination, contrary evidence, and attention to the burden of proof, not exclusion,” *id.* (citing *Daubert*, 509 U.S. at 564).

**a. Whether Plaintiff could slip out of her shoes and the ankle lock**

Defendants’ primary argument against the reliability of the Hayes Report is that the report does not include any analysis, testing, or other scientific basis for its conclusions that Plaintiff’s feet could have slipped out of her “securely tied” tennis shoes and then could have slipped through the ankle lock system. The Court held an evidentiary hearing on January 22, 2016, to receive further evidence regarding the bases of Dr. Hayes’ opinions. Three days before the hearing, Dr. Hayes submitted his Second Supplemental Report (“Hayes Second Supplemental Report”). Dkt. 49-1. The Hayes Second Supplemental Report provides additional information relating to the bases of Dr. Hayes’ opinions regarding how Plaintiff’s feet could have slipped out of the ankle lock system and his proposed alternative designs.<sup>3</sup> Dr. Hayes’ three reports, the Hayes Report, Hayes Supplemental Report, and Hayes Second Supplemental Report are collectively referred to as “the Hayes Reports.”

At the evidentiary hearing, Dr. Hayes explained his conclusion that Plaintiff could have slipped out of her shoes. Dr. Hayes testified that he performed three trials each on two test subjects testing the force required to pull tennis shoes off of the test subjects’ feet. The test subjects were instructed to “securely” tie their shoes. The average force required to pull off the test subjects’ tennis shoes while they were sitting with their legs out in front of them parallel to the floor was 38 pounds. Dr. Hayes calculates that the force on Plaintiff’s shoes when she was inverted was 42 pounds. Dr. Hayes further testified that the fact that at the time of injury,

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<sup>3</sup> The Court accepted Dr. Hayes’ Second Supplemental Report in evidence, over Defendants’ objection, because it is the type of evidence that the Court anticipated receiving at the evidentiary hearing. *See* Dkt. 45.

Plaintiff's legs were perpendicular, and not parallel, to the floor and the presence of the foam rollers and ankle cups would not materially change the force or angle required for Plaintiff's feet to slip out of her shoes. Thus, Dr. Hayes concludes, there was sufficient force for her feet to slip out of her shoes.

Defendants argue that Dr. Hayes' tests are insufficient to demonstrate that the feet of a person using the InvertAlign could slip out of securely tied shoes. Defendants argue that the force required to pull an inverted foot from the ankle lock system is greater than to pull a tennis shoe off by pulling on the heel of a person who is sitting with his or her leg parallel to the floor. Defendants' dispute with Dr. Hayes' testimony are more appropriate for cross examination and rebuttal testimony and do not render Dr. Hayes' testimony excludable.

Regarding how Plaintiff's feet could have slipped out of the ankle lock system, Dr. Hayes conducted testing using Plaintiff's InvertAlign on six subjects with ankle thicknesses ranging between 2.9 and 3.2 inches.<sup>4</sup> All six test subjects chose locking position number three as their preferred setting. In the Hayes Second Supplemental Report, Dr. Hayes reports the results of the testing he conducted on the compression of the foam rollers and rear ankle cups on Plaintiff's IntervAlign. Based on Plaintiff's weight, Dr. Hayes concluded that the foam roller compressed 0.47 inches and the rear ankle cups compressed 0.13 inches. At the evidentiary hearing, Dr. Hayes testified that based on Plaintiff's body weight and the scientific studies relating to heel fat compression, Plaintiff's heel fat pad would have compressed approximately 0.3 inches. Thus, Dr. Hayes' conclusions that Plaintiff could slip through the ankle lock system employs the following mathematical analysis: (1) starting with Plaintiff's maximum foot width of 4.5 inches; (2) subtracting approximately 0.3 inches of "heel fat pad compression," which

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<sup>4</sup> As noted above, Dr. Hayes found that Plaintiff's ankle thickness is 2.8 inches.

yields a compressed maximum foot width of 4.2 inches; and (3) concluding that Plaintiff's compressed foot width of 4.2 inches could have slipped through the maximum 3.6 inch gap that occurs when the ankle locking mechanism is set at position number three (the gap is created by 3 inches from the lock position setting plus the 0.47 inches of foam roller compression plus the 0.13 inches of rear ankle cup compression). Although Plaintiff's compressed maximum foot width is 0.6 inches greater than the opening of the ankle lock system after compression, Dr. Hayes concludes Plaintiff's feet could slip through because the soft tissues and cartilage in and around the foot are also compressible and the bones within the human ankle and feet have the ability to shift and realign when feet are compressed. Dkt. 49-1 at 4. At locking position number four, at which Dr. Hayes opines Plaintiff also could have set her InvertAlign, based on Dr. Hayes' conclusions, the opening of the ankle lock system after compression would be 4.1 inches, and with only 0.1 inches of additional soft tissue and bone compression, Plaintiff's feet could slip through.

The Court finds that Dr. Hayes' conclusions are sufficiently reliable and thus admissible in evidence. Defendants' disagreements with Dr. Hayes' conclusions are more appropriately addressed through cross examination of Dr. Hayes or the testimony of Defendants' rebuttal expert, Alan C. Topinka, and do not warrant the exclusion of the testimony reflected in the Hayes Reports. *See Pomona*, 750 F.3d at 1044.

**b. Whether there are feasible alternative designs**

The Hayes Report also concludes that there are other "alternative locking mechanisms" that would have "eliminated the defect in the subject inversion table." Dkt. 25-6 at 7. Dr. Hayes opines that designs that fasten around the lower legs are feasible and more secure. Specifically, Dr. Hayes notes that there are other inversion tables using these safer designs, and he provides examples including the "gravitational boot" design (offered by Teeter Hang Ups) and the "Ergo-

PAGE 12 – OPINION AND ORDER

Embrace Supports,” which employ two C-shaped ankle cups (also offered by Teeter Hang Ups). In the Hayes Second Supplemental Report, Dr. Hayes reports the results of testing he performed on these designs. Based on Plaintiff’s measurements and weight, the gravity boot design would have had an initial width of 2.8 inches and additional compression while inverted of 0.16 inches and the Ergo-Embrace design would have had an initial opening of 2.9 inches and would have increased by approximately 0.09 inches while fully inverted. Dkt. 49-1 at 4. Dr. Hayes opines that the alternative designs’ smaller openings of approximately 3.0,<sup>5</sup> would have been too small for Plaintiff’s foot to slip through, even considering heel fat pad compression, other soft tissue compression, and possible bone realignment. *Id.*

Defendants challenge Dr. Hayes’ conclusion that there are feasible safer designs, arguing that Dr. Hayes offers no evidence of the cost of these designs and offers no statistical evidence of the safety of these alternative designs. These arguments are unavailing. The economic feasibility of these designs is shown by the fact that they are used in other, commercially-available, competitive inversion tables that are comparable to Plaintiff’s InvertAlign. The design, thus, cannot be so cost-prohibitive as to render it infeasible. Whether these alternative locking mechanisms would have raised the cost of Plaintiff’s InvertAlign is an argument Defendants may present to the jury, but such questions do not render the Hayes Reports unreliable.

Regarding Dr. Hayes’ conclusion that designs that fasten around the lower legs are more secure, there is no requirement that he provide specific safety statistics. Dr. Hayes’ specialized knowledge and expertise in the field of biomechanical engineering qualifies him to opine that a design that fastens around the lower legs is more secure than a design that has an ankle cup on

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<sup>5</sup> Dr. Hayes notes the openings with compression on both the gravity boot and Ergo-Embrace designs would have been approximately 3.1 inches, but the Court believes this to be a typographical error as 2.8 plus 0.16 equals 2.96 and 2.9 plus 0.09 equals 2.99. Thus, the opening after compression on these two alternative designs would be approximately 3.0 and not 3.1.

the back side of the user's leg and a straight, compressible foam roller on the front side.

Defendants' challenges to Dr. Hayes' testing of the gravity boot and Ergo-Embrace settings and compression and failure to review safety statistics may be a basis on which Defendants can impeach Plaintiff's expert testimony, but do not render the testimony on the availability of feasible alternative designs inadmissible under the facts of this case.

**c. Whether there are feasible fail-safe mechanisms**

The Hayes Report also concludes that there are fail-safe mechanisms "that could have been feasibly incorporated into the design of the subject inversion table" and would have "significantly reduced or completely eliminated [Plaintiff's] injuries." Dkt. 25-6 at 8. Specifically, Dr. Hayes identifies adding a "J"-shaped brace above the user's shoulders to prevent impact with the ground, adding a "curved chute" as an extension beyond the top of the inversion table's headrest to force the neck into a state of flexion, decreasing the vertical drop from a fully inverted position, and permanently prohibiting the table from inverting more than 60 degrees. Although the Hayes Report opines that these fail-safe mechanisms could have "feasibly" been incorporated, the report does not explain how they could be incorporated and still maintain the functionality of the machine, particularly for persons of different heights. *Id.* Nor does the report discuss whether the cost of such fail-safe mechanisms is preclusive or whether any of the fail-safes, such as eliminating the ability of the machine fully to invert, would adversely affect the marketability or desirability of the inversion table. Unlike with the alternative designs discussed above, the Hayes Report does not reference any other inversion table using any of these fail-safe mechanisms and thus demonstrating their feasibility.

At the *Daubert* hearing, Dr. Hayes testified that to his knowledge, no other inversion table design incorporates these fail-safe mechanisms and that he has no knowledge of the costs of implementing these fail-safe mechanisms. He acknowledged that Plaintiff's InvertAlign has a

PAGE 14 – OPINION AND ORDER

“tether” that can be set by the user to prevent it from fully inverting and conceded that some users desire to fully invert despite having the option to prevent their machine from fully inverting. He testified that he could not estimate the costs for the J-brace fail-safe, but that based on his experience, he believes the curved chute could be implemented inexpensively by adding a firm, yet flexible, piece of plastic that curved up from the top of the machine (which would be the bottom of the machine when inverted). He admitted, however, that he has not designed such a fail-safe mechanism for an inversion table. He testified that the fail-safe mechanisms should not affect the usability of the machine for persons of differing heights.

The evidence must show that “the suggested alternative is not only feasible but also practicable in terms of costs and the over-all design and operation of the product.” *Glover v. BIC Corp.*, 6 F.3d 1318, 1331 (9th Cir. 1993) (citation and quotation marks omitted). The Court finds that Dr. Hayes’ opinion that the alternative fail-safe designs of the J-brace and curved chute are practicable in terms of cost and technical feasibility is not sufficiently reliable. Accordingly, these conclusions by Dr. Hayes are stricken.

With respect to Dr. Hayes’ conclusion that use of the alternative design permanently preventing the machine from inverting greater than 60 degrees is a feasible alternative, the Court finds that the feasibility of this alternative design is within the common knowledge of a jury and no expert testimony on feasibility is required. *See Edmons v. Home Depot, U.S.A., Inc.*, 2011 WL 127165, at \*7 (D. Or. Jan. 14, 2011) (noting that “if a product’s design is sufficiently straightforward, the court may itself make the determination whether an alternative design was feasible”); *see also Wilson v. Piper Aircraft Corp.*, 282 Or. 61, 69 (1978) (“A court and jury could infer, on the basis of common knowledge, that the addition of shoulder harnesses and improved seat belt attachments would not significantly affect the over-all engineering of the

airplane and would not be unduly expensive.”). Thus, Dr. Hayes’ opinion that use of this design would have prevented Plaintiff’s injury is admissible. Whether this alternative design might have had some effect on the commercial desirability or marketability of the machine is an argument that Defendants may present to the jury.

#### **B. Plaintiff’s Claim for Strict Product Liability for Defective Design**

The Oregon legislature codified portions of Section 402A of the *Restatement (Second) of Torts* (1965) in establishing the requirements for a product liability action. ORS §§ 30.900 *et seq.*; *see also Ewen v. McLean Trucking Co.*, 300 Or. 24, 28-30 (1985) (discussing the history of the enactment of Oregon’s product liability statute) (citing to Dominick Vetri, *Legislative Codification of Strict Products Liability Law in Oregon*, 59 Or. L. Rev. 363 (1981)). Under Oregon law, a plaintiff may bring a “product liability civil action,” which is defined as:

a civil action brought against a manufacturer, distributor, seller or lessor of a product for damages for personal injury . . . arising out of:

- (1) Any design, inspection, testing, manufacturing or other defect in a product;
- (2) Any failure to warn regarding a product; or
- (3) Any failure to properly instruct in the use of a product.

ORS § 30.900.

One who sells or leases a product in a defective condition that is “unreasonably dangerous to the user or consumer or to the property of the user or consumer” is strictly liable for physical harm or damage to property caused by that condition, if the “seller or lessor is engaged in the business or selling or leasing such a product” and if the “product is expected to and does reach the user or consumer without substantial change in the condition in which it is sold or



leased.” ORS § 30.920. Here, Plaintiff alleges a strict product liability claim based on the allegedly defective design of Plaintiff’s InvertAlign.

### **1. Elements of a Claim for Strict Product Liability by Defective Design**

Under Oregon law:

the necessary elements of a design defect case are: (1) the sale or leasing of a product by one engaged in the business of selling or leasing such products; (2) a product that was expected to, and did, reach the user or consumer without substantial change in condition; (3) a product that, when sold, was in a defective condition unreasonably dangerous to the user or consumer; (4) injury to the user or consumer, or damage to his or her property; (5) that was caused by the product’s defective condition.

*McCathern v. Toyota Motor Corp.*, 332 Or. 59, 77 n.15 (2001). In this case, only the third and fifth elements are in dispute—the InvertAlign’s allegedly defective condition and causation.

#### **a. Defective condition**

Oregon has codified the “consumer expectations” test for determining when a product is defective. *Id.* at 75. This test requires that a plaintiff “prove that, when the product left the defendant’s hands, the product was defective and dangerous to an extent beyond that which the ordinary consumer would have expected.” *Id.* at 79.

“Whether a product is dangerous to an extent beyond that which would be contemplated by the ordinary consumer is a factual question to be determined by the jury.” *Id.* at 77. A trial court must, however, “ensure that the evidence is sufficient for the jury to make an informed decision about what ordinary consumers expect.” *Id.* Because ORS § 30.910 creates a rebuttable presumption that a product is not defective,<sup>6</sup> “a plaintiff may not rely on the bare assertion of a defect from which a jury may infer unreasonable dangerousness; rather, a party must

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<sup>6</sup> It is a “disputable presumption” in such cases that “a product as manufactured and sold or leased is not unreasonably dangerous for its intended use.” ORS § 30.910.

affirmatively put forth some evidence on the issue of dangerousness before the issue may properly be submitted to a jury.” *Russell v. Deere & Co.*, 186 Or. App. 78, 83 (2003).

Consumer expectations about how some products should perform under a particular set of circumstances may, in some cases, be within the realm of jurors’ common experience. *McCathern*, 332 Or. at 78. In other cases, however, the products or circumstances involved may be such that the average person would not know what to expect. *Id.* “When a jury is unequipped, either by general background or by facts supplied in the record, to decide whether [a product] failed to perform as safely as an ordinary consumer would have expected . . . additional evidence about the ordinary consumer’s expectation is necessary.” *Id.* (quotation marks omitted) (alteration in original). This additional evidence may include advertising or other representations by the defendant about how a product can be used and will perform.<sup>7</sup> *Id.* at 79. In a design defect case, this additional evidence may consist of risk-utility balancing—proving that a practicable and feasible design alternative was available. *Id.* at 78.

#### **b. Causation**

“In addition to presenting proof as to the condition of the defendant’s product, the plaintiff in a strict liability case is required to establish that such condition proximately caused his injuries or damages.” *Gilmour v. Norris Paint & Varnish Co.*, 52 Or. App. 179, 184 (1981) (quotation marks omitted); *see also Edmons*, at \*8 (same); *McCathern*, 332 Or. at 77 n.15 (noting that causation is a required element in a strict product liability case). “This requires that a plaintiff ‘introduce evidence which affords a reasonable basis for the conclusion that it is more likely than not that the conduct of the defendant was a substantial factor in the result. A mere

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<sup>7</sup> This is evidence from which the expectation of an ordinary consumer can be adduced, however, “such evidence by itself rarely will demonstrate that a product is defective.” *McCathern*, 332 Or. at 79.

possibility of such causation is not enough . . . .” *Edmons*, 2011 WL 127165, at \*8 (quoting *Hall v. Baxter Healthcare Corp.*, 947 F. Supp. 1387, 1298 (D. Or. 1996)).

## **2. Analysis of Plaintiff’s Claim of Strict Product Liability by Defective Design**

### **a. Causation**

As an initial matter, Defendants argue that there is no genuine dispute of material fact regarding all of the grounds on which Plaintiff bases her claim for strict product liability because Plaintiff offers no evidence that her injuries were caused by a defective InvertAlign. The crux of Defendants’ argument is that their expert testified that if Plaintiff used the InvertAlign as she testified, then it is impossible for her feet to have slipped out of her shoes and out of the ankle lock system. This, Defendants argue, shows that there is no evidence of causation.

Defendants’ argument combines the analysis of whether Plaintiff’s InvertAlign was defective with whether Plaintiff has shown causation. Defendants do not directly dispute that Plaintiff fell while she was using her InvertAlign. They briefly note that Plaintiff “would have needed to deliberately misuse the product in order to accomplish her alleged defect of falling through the Ankle Lock System.” Dkt. 25 at 16. To the extent that is meant to argue that Plaintiff intentionally caused her own fall, such an argument is insufficient to support summary judgment, and is spurious.

In considering Defendants’ motion for summary judgment, the Court views the evidence in the light most favorable to Plaintiff, as the non-moving party. Plaintiff testified that she was using the machine when she blacked out and that she later awoke on the floor under the machine. First responders found her under the machine, with one foot on the crossbar of the machine, unable to move her lower extremities. Mr. Kim testified that the ankle lock system was still in the locked position after Plaintiff’s fall. Plaintiff testified that her shoes were off of her feet after the fall. The evidence thus shows that Plaintiff somehow fell from her InvertAlign and slipped

out of her shoes. The dispute is whether she fell because the machine was defective or because of some other reason, such as Plaintiff's fault or negligence in securing the ankle lock system too loosely. This dispute is more appropriately addressed in the analysis of whether Plaintiff has provided sufficient evidence of a defect and is discussed below.

For purposes of causation, Plaintiff testified that she believes that she used her InvertAlign in compliance with the instructional DVD and that she adequately secured her ankles yet she still fell and was injured. Mr. Kim testified that the ankle lock system was still in the locked position after Plaintiff's fall. Plaintiff's expert, Hayes + Associates, provides expert testimony explaining how, from a mechanical perspective, the accident happened and that Plaintiff's injuries were caused by a defective InvertAlign.

Defendants' expert, Mr. Topinka, testified that it is "impossible" for Plaintiff's feet to have slipped through her shoes and the InvertAlign's ankle lock system under the circumstances described by Plaintiff and Hayes + Associates. Plaintiff's experts then offered supplemental testimony in opposition to Mr. Topinka's opinions. Resolving whether the accident could have occurred in the manner testified-to by Plaintiff presents a factual dispute that is for a jury to decide.

#### **b. Allegedly Defective Design**

To avoid summary judgment, Plaintiff must show a genuine dispute of material fact regarding whether her InvertAlign was defective—*i.e.*, whether it was in a condition not contemplated by Plaintiff and was "dangerous to an extent beyond that which would be contemplated by the ordinary consumer who purchases it, with the ordinary knowledge common to the community as to its characteristics." *McCathern*, 332 Or. at 77 (quotation marks omitted).

Regarding ordinary consumer expectations, the belief that an inversion table would safely allow the user fully to invert without slipping out of the ankle lock system is likely in the realm

of a juror's common experience. Even if it were not, however, the InvertAlign instructional video represented both visually and audibly that the InvertAlign could safely be used in a fully inverted position. This is sufficient evidence to show a genuine dispute as to whether an ordinary consumer would expect that the InvertAlign allowed for such a maneuver.

Plaintiff also has provided sufficient evidence of a genuine dispute that her InvertAlign was unreasonably dangerous. Plaintiff used her InvertAlign daily, or sometimes twice daily, for approximately 50 days before the incident. She testified that on March 10, 2012, for the second time that day, she used the InvertAlign in the same manner that she always used it. She believed that she used it in conformance with the manufacturer's DVD and that she had securely locked her ankles. After counting to approximately 65, she fell, resulting in permanent paraplegia. Evidence from first responders shows that Plaintiff was found supine under her InvertAlign with one foot propped on a crossbar. Plaintiff testified that she slipped out of her shoes, although she does not recall whether her shoes fell to the ground or were still in the ankle locking system after she fell. Additionally, Mr. Kim testified that the ankle lock system was still in the locked position after Plaintiff's fall. Moreover, Plaintiff submitted expert testimony that the machine was defective and unreasonably dangerous. Thus, Plaintiff has produced sufficient evidence to show a genuine dispute of material fact on this issue.

Defendants repeatedly argue that it is impossible for Plaintiff's feet to slip out of her InvertAlign if she used the machine in the manner to which she testified. Defendants argue that if Plaintiff tightened the ankle locking mechanism such that there was no gap, as she testified, then she was necessarily in locking setting two and it was impossible for her feet to slip out of the ankle lock system. Thus, conclude Defendants, Plaintiff has failed to show either causation or defective design. The error in Defendants' argument is that the premise is not supported, or at

least not compelled, by the evidence. Plaintiff's deposition testimony does not prove, at least not beyond genuine dispute, that she tightened the ankle locking mechanism to the second locking position. All that Plaintiff's testimony proves is that Plaintiff believed she had securely and correctly locked her ankles before she inverted.

Moreover, Defendants' continued reliance on their expert's conclusion that it is impossible for Plaintiff to have slipped out of the ankle lock system disregards the standard on summary judgment. At summary judgment, the Court must accept as true Plaintiff's testimony that she unexpectedly fell while she was fully inverted on her InvertAlign and that she slipped out of her shoes and Mr. Kim's testimony that the ankle lock system was still in the locked position. Despite Defendants' assertion that such a fall is impossible, for purposes of summary judgment, the Court accepts that the fall occurred as Plaintiff and her witnesses describe it, and determining how Plaintiff fell and whether it was from a defect in her InvertAlign are issues of fact for the jury to decide.

Additionally, evidence sufficient "to show that a product is dangerous to an extent beyond that which would be contemplated by an ordinary consumer" may also "consist of evidence that the magnitude of the product's risk outweighs its utility, which itself may be proved by demonstrating that a safer design alternative was both 'practicable and feasible.'" *Benjamin v. Wal-Mart Stores, Inc.*, 185 Or. App. 444, 461 (2002) (quoting *McCathern*, 332 Or. at 77). Here, the Hayes Report opined as to several alternative design options Defendants could have feasibly and practicably incorporated to make the InvertAlign safer, including using a "gravity boot" design or a dual "C-clamp" design as used in the Ergo-Embrace inversion table. Further, the Hayes Report also concluded that Plaintiff's injuries could have been mitigated or eliminated by incorporating the fail-safe mechanism of permanently preventing the machine

from fully inverting. This evidence, as well, is sufficient to defeat summary judgment. *See, e.g., Hill v. Tech. Chem. Corp.*, 2006 WL 2792183, at \*2-3 (D. Or. 2006) (finding sufficient to defeat summary judgment an expert report stating that alternative mechanisms would have mitigated the incident) (citing *McCathern*, 322 Or. at 78-82, for the proposition that “[e]vidence from which a jury could infer that a change in design would have been effective in preventing the accident is sufficient to create an issue of fact”).

### **CONCLUSION**

Defendants’ motion for summary judgment (Dkt. 25) is GRANTED IN PART AND DENIED IN PART. Summary judgment is granted against Plaintiff’s claims of negligence and strict product liability by failure to warn and denied against Plaintiff’s claim of strict product liability by design defect. The Court also notes that Plaintiff does not allege a claim of strict product liability by manufacturing defect. Defendants’ motion to strike Plaintiff’s expert testimony (Dkt. 26) is GRANTED IN PART AND DENIED IN PART. Defendants’ motion is granted with respect to the expert testimony of Hayes + Associates relating to the alternative designs incorporating the fail-safe mechanisms of either the J-shaped brace or the curved chute and denied with respect to Hayes + Associates’ remaining testimony. Defendants’ motion to strike the testimony of Dr. Edward W. Karnes is denied as moot.

**IT IS SO ORDERED.**

DATED this 25th day of January, 2016.

/s/ Michael H. Simon  
 Michael H. Simon  
 United States District Judge